

Dipole Antenna Myths to Bust:

1. A Balun is just a fancy center insulator.
2. A center insulator is the same as a Balun, just the name is different.
3. A dipole that doesn't run in a straight line won't work.
4. A home-brew antenna is not as good as a store-bought antenna.
5. A low SWR means your antenna is resonant.
6. A matchbox or tuner is not needed if your antenna is resonant.
7. A resonant antenna will always have a low SWR.
8. A vertical half wave dipole is another name for a ground plane antenna.
9. A vertical dipole needs radials because all verticals need radials.
10. A wire antenna always needs to be made from bare wire.
11. A wire antenna always needs to be made from insulated wire.
12. An antenna tuner just wastes power.
13. An antenna tuner tunes your antenna.
14. An antenna tuner will just make the radio happy, that's all it does.
15. An antenna tuner just fools your radio into thinking it has a 50-ohm load.
16. If you tuned your antenna on the ground, it should be good up in the air.
17. If your dipole sags in the middle you didn't stretch it tight enough.
18. It doesn't matter if your antenna is close to nearby objects.
19. To check if a Balun is good all you need is an ohm meter.
20. You always need a Balun at the center of your dipole.
21. You need an antenna analyzer to properly tune your antenna.
22. You need to cut your dipole wire ends, if too long, to tune your dipole.
23. You need to put your dipole $1/2$ wavelength in the air or it won't work.
24. You used a dip meter to tune your antenna on the ground so it should be good to go.
25. You used the formula $468/f$ to make your dipole so it should be resonant.

Myths Busted – by the numbers:

1. through 8. No.
9. No, a dipole, as we currently use the term, means a complete half-wave antenna.
10. No. it doesn't matter. Insulation will tend to make your wire electrically longer.
11. No. See answer to #10.
12. No. And it should be called a matchbox (matches the impedance of the Radio to the Antenna System).
13. No. It tunes your Antenna System. Your Antenna System includes your antenna and your feed line.
14. Yes or no depends on your level of understanding (see myth #15)
15. No. No more than the transformer at the top of a utility pole fools your house wiring.
16. Not necessarily. Height above ground affects the impedance of the antenna, therefore the SWR, and other things.
17. No. It just means it's obeying the laws of physics. Think of a pulley or a lever.
18. Not necessarily. Nearby objects affect the antenna, some more than others & vice-versa.
19. No. Depending on where you measure it, a good Balun will have an open or a short.
20. No. Assuming you mean a Balun, not a mis-named center insulator, a Balun is useful in some situations.
21. No. You can tune your antenna by various means, as was done before analyzers.
22. No need to cut, just fold the ends back along the dipole and that will cancel out the length.
23. No. Dipoles work at almost any height. Think NVIS. They will be more effective at some heights, depending on what you want to achieve (think angle of radiation).
24. Not necessarily. See answer to #16. Even if you use the dip meter at the center of the antenna up in the air (use a cherry-picker or tall ladder), a resonant antenna will only be resonant on a specific frequency. But you can use it on others (think matchbox).
25. No. $468/f$ will give you an antenna that is longer than you need. Makes for a less troublesome installation (easier to cut a too-long antenna than to add wire to a too-short antenna). Same for store-bought.